

WHAT IS CLAIMED IS:

- 1 1. A processor-based method for communicating between cellular modem
2 software and application engine software, both software running concurrently on a
3 communications device, comprising:
 - 4 providing a communications module that facilitates communications between the
5 cellular modem software and the application engine software;
 - 6 invoking from the communications module a generic function in response to a
7 service request from the application engine software;
 - 8 transforming the generic function to a specific function of the cellular modem
9 software; and
- 10 invoking the specific function of the cellular modem software.
- 1 2. The method of Claim 1, further comprising:
 - 2 sending a specific reply of the cellular modem software targeted for the
3 communications module in response to the specific function;
 - 4 transforming the specific reply to a generic reply; and
 - 5 sending the generic reply to the communications module.
- 1 3. The method of Claim 1, wherein the communications module comprises a
2 telephony module.
- 1 4. The method of Claim 1, wherein the application engine software includes
2 the Symbian operating system.
- 1 5. The method of Claim 4, wherein the communications module comprises a
2 Telephony Server Module (TSY) compatible with the Symbian ETEL.
- 1 6. The method of Claim 1, wherein invoking from the communications
2 module the generic function comprises forming one or more abstract primitives based on
3 the generic function.

1 7. The method of Claim 6, wherein transforming the generic function to the
2 specific function of the cellular modem software comprises forming one or more concrete
3 primitives that inherit characteristics from the one or more abstract primitives to form the
4 specific function.

1 8. A processor-based method for communicating between cellular modem
2 software and application engine software, both software running concurrently on a
3 communications device, comprising:

4 providing a communications module that facilitates communications
5 between the cellular modem software and the application engine software;
6 invoking from the cellular modem software a specific function targeted for
7 the communications module in response to a hardware event;
8 transforming the specific function to a generic function of the
9 communications module; and
10 invoking a method of the application engine software via the generic
11 function of the communications module.

1 9. The method of Claim 8, further comprising:

2 sending in response to the method of the application engine software a generic
3 reply of the communications module targeted for the cellular modem software;
4 transforming the generic reply to a specific reply of the cellular modem software;
5 and
6 sending the specific reply to the cellular modem software.

1 10. The method of Claim 8, wherein the communications module comprises a
2 telephony module.

1 11. The method of Claim 8, wherein the application engine software includes
2 the Symbian operating system.

1 12. The method of Claim 11, wherein the communications module comprises a
2 Telephony Server Module (TSY) compatible with the Symbian ETEL.

1 13. The method of Claim 8, wherein invoking from the cellular modem
2 software the specific function comprises forming the specific function from one or more
3 concrete primitives associated with the cellular modem software.

1 14. The method of Claim 13, wherein the concrete primitives inherit
2 characteristics from one or more abstract primitives, and wherein transforming the specific
3 function to the generic function of the communications module comprises forming the
4 generic function from the one or more abstract primitives.

1 15. A computer-readable medium configured with instructions for causing one
2 or more processors of a data processing arrangement having concurrently running cellular
3 modem software and application engine software to perform steps comprising:

4 invoking a generic function of a communications module of the data processing
5 arrangement in response to a service request from the application engine software;

6 transforming the generic function to a specific function of the cellular modem
7 software; and

8 invoking the specific function of the cellular modem software.

1 16. The computer-readable medium of Claim 15, wherein the communications
2 module comprises a telephony module.

1 17. The computer-readable medium of Claim 15, wherein the communications
2 module comprises a Telephony Server Module (TSY) compatible with Symbian ETEL.

1 18. The computer-readable medium of Claim 15, wherein invoking from the
2 communications module the generic function comprises forming one or more abstract
3 primitives based on the generic function.

1 19. The computer-readable medium of Claim 18, wherein transforming the
2 generic function to the specific function of the cellular modem software comprises forming
3 one or more concrete primitives that inherit characteristics from the one or more abstract
4 primitives to form the specific function.

1 20. A computer-readable medium configured with instructions for causing a
2 processor of a data processing arrangement having cellular modem software and
3 application engine software to perform steps comprising:

4 invoking from the cellular modem software a specific function in response
5 to a hardware event targeted for the application engine software;

6 transforming the specific function to a generic function of a
7 communications module of the data processing arrangement; and

8 invoking a method of the application engine software via the generic
9 function of the communications module.

1 21. The computer-readable medium of Claim 20, wherein the communications
2 module comprises a telephony module.

1 22. The computer-readable medium of Claim 20, wherein the communications
2 module comprises a Telephony Server Module (TSY) compatible with Symbian ETEL.

1 23. The computer-readable medium of Claim 20, wherein invoking from the
2 cellular modem software the specific function comprises forming the specific function
3 from one or more concrete primitives associated with the cellular modem software.

1 24. The computer-readable medium of Claim 23, wherein the concrete
2 primitives inherit characteristics from one or more abstract primitives, and wherein
3 transforming the specific function to the generic function of the communications module
4 comprises forming the generic function from the one or more abstract primitives.

1 25. A data terminal comprising:
2 a memory storing a communications module; and
3 one or more processors coupled to the memory and operable by cellular modem
4 software and application engine software, the processors operable to exchange data
5 between the cellular modem software and the application engine software by,
6 processing communications between the communications module and the
7 application engine software;
8 processing generic functions of the communications module to
9 communicate with the communications module;
10 processing specific functions of the cellular modem software to
11 communicate with the cellular modem software; and
12 translating between generic functions of the communications module and
13 specific functions of the cellular modem software to facilitate communications
14 therebetween.

1 26. The data terminal of Claim 25, wherein the communications module
2 comprises a telephony module.

1 27. The data terminal of Claim 25, wherein the communications module
2 comprises a Telephony Server Module (TSY) compatible with Symbian ETEL.

1 28. The data terminal of Claim 25, wherein translating between generic
2 functions of the communications module and specific functions of the cellular modem
3 software comprises basing the generic functions on one or more abstract primitives and
4 basing the specific functions on one or more concrete primitives associated with the
5 cellular modem software, the concrete primitives inheriting characteristics from the
6 abstract primitives.

1 29. A data terminal comprising:
2 means for operating cellular modem software and application engine software on
3 the data terminal;
4 means for processing communications between the application engine software and
5 a communications module of the data terminal;
6 means for processing generic functions of the communications module to
7 communicate with the communications module;
8 means for processing specific functions of the cellular modem software to
9 communicate with the cellular modem software; and
10 means for translating between generic functions of the communications module and
11 specific functions of the cellular modem software to facilitate communications
12 therebetween.